



Winter Operations Planning Document for

**Township of Mulmur
(Winter Season 2025-2026)**

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Purpose

This winter operations plan sets out a policy and procedural framework for ensuring that the Township of Mulmur continuously improves on the safe and sustainable delivery of winter maintenance services and the effective and efficient use of road salt in their winter maintenance operations. This plan supersedes all previous plans for the Township of Mulmur.

The plan is meant to be dynamic, to allow the municipality to evaluate and phase-in any changes, new approaches and technologies in winter maintenance activities in a fiscally sound manner. At the same time, any modifications to municipal winter maintenance activities must ensure that roadway safety is not compromised.

This Winter Operations Plan for the Township of Mulmur was endorsed by the Council of Mulmur Township.

Definitions

Anti-icing means the application of liquid de-icers directly to the road surface in advance of a winter event.

Continuous Winter Event Response is a response to a winter event with full deployment of manpower and equipment that plow/salt/sand the entire system.

De-icing means the application of solids, liquids, pre-treated material to the road surface after the on-set of the winter event.

Public Works Foreperson is the person who is on duty at the time directing the snow/ice removal operations of the Township of Mulmur. It may be any individual who may be assigned the responsibility of Public Works Foreperson.

Highway means a common and public highway, street, avenue, parkway, driveway, square, place, bridge, viaduct or trestle, any part of which is intended for or used by the general public for the passage of vehicles and includes the area between the lateral property lines thereof.

Paved Road means a road with an asphalt surface, concrete surface, composite pavement, or portland cement.

Pre-treat means the application of liquids (sodium chloride, calcium chloride, etc.) to dry salt or sand prior to being loaded for storage or applied to the road surface.

Pre-wetting means the application of liquids (sodium chloride, calcium chloride, etc.) at the spinner of the truck just prior to application to the road surface.

Route of Representative Roads is another term used for patrol routes.

Salt Route is a collection of road segments, which during a winter storm will receive applications of salt to prevent the formation of a bond between snow and pavement, or if such a bond has already formed, to break that bond. Typically such routes have some sort of bare pavement level of service. Under certain circumstances (e.g. extremely cold pavement temperatures such that road salt would not be effective at bond breaking or prevention) sand may be applied to such routes to provide a temporary increase in grip.

Sand Route is a collection of road segments which during a winter storm will receive applications of sand to provide a temporary increase in grip. Typically such routes include gravel and other unpaved roads, where the use of salt or other freeze- depressant materials might impact road stability. The level of service on such routes would not have bare pavement as a service goal.

Spot Winter Event Response is a response to a winter event with only a partial deployment of manpower and equipment or with full deployment to only part of the system.

Surface Treated Road is road with bituminous surface treatment comprised of one or two applications of asphalt emulsion and stone chips over a gravel road.

Unpaved Road is a graded road with a gravel, stone or other loose traveling surface.

Windrow is the pile of snow that is left at the bottom of a driveway after a snowplow has cleared the road

Winter Event is a weather condition affecting roads such as snowfall, windblown snow, freezing rain, frost or ice to which a winter event response is required.

Winter Event Response is a series of winter control activities performed in response to a winter event.

Winter Event Response Hours are the total number of person-hours per year (plowing, salting/sanding, winging back, etc.) to respond to winter events.

OBJECTIVE OF WINTER OPERATIONS MANAGEMENT

The Township of Mulmur is committed to providing safe and sustainable winter maintenance operations while continuing to improve those operations to provide safety and mobility for the traveling public. As an integral part of this effort the Township of Mulmur will strive to optimize the use of all winter maintenance materials as they pursue the goal of a safe and sustainable transportation system.

The Township of Mulmur Public Works staff will strive, insofar as reasonably practicable, to provide safe winter road conditions for vehicular and pedestrian traffic as set out in the level of service policies and within the resources established by the Council of the Township of Mulmur.

POLICY STATEMENT

The Township of Mulmur will conduct safe and sustainable snow fighting to ensure, insofar as reasonably practicable, the safety and mobility of users of the municipal road network, in keeping with applicable state legislation.

The Township of Mulmur will provide efficient and cost effective winter maintenance to ensure, insofar as reasonably practicable, the safety of users of the municipal road network in keeping with applicable provincial legislation and accepted standards while striving to minimize adverse impacts to the environment. These commitments will be met by:

Adhering to the procedures contained within the Winter Operations Plan; Reviewing and upgrading the Winter Operations Plan on an annual basis to incorporate new technologies and new developments;

Committing to ongoing winter maintenance staff training and education; and Monitoring on an annual basis, the present conditions of the winter maintenance program, as well as the effectiveness of the Winter Operations Plan.

QUICK OVERVIEW OF THE TOWNSHIP OF MULMUR

Type of Organization:	Municipal
Structural Level:	Township
Estimated Population (2021 Consensus):	3600
Total Area:	71000.0 Acres
Street Address:	758070 2nd Line E. Municipal Office / Public Works Shop Mulmur, Ontario L9V0G8 Canada Telephone: 705-466-3341 Website: www.mulmur.ca Director of Infrastructure: 705-466-3341 x 224 Public Works Foreperson: 705-466-3341 x 228
Police:	O.P.P. Contact Person: Dispatch Primary Phone: 519-925-3838
Contractors:	Staveley Construction Inc.: Primary Contact Person: Randy Staveley Primary Phone: 519-939-0797 (Cell) Contracted Tasks: 2nd Line west north of River Rd. & West Townline south of River Rd. Alex Kozak Gravel Driveways & Concrete: Primary Contact Person: Alex Kozak Primary Phone: 416-919-7220 Contracted Tasks: Pathway between Jeffery Drive and Thomson trail

WINTER MAINTENANCE PROGRAM

4.1. The System Maintained

The major activities related to winter maintenance are:

- Snow plowing
- Salt/sand application Snow removal
- Sidewalk plowing and de-icing Drift-control
- Cleaning snow from ditches
- Snow Blowing / Snow bank removal

The Township of Mulmur is responsible for winter maintenance on:

Road Category	Surface and Area Type	Individual Length (Lane kilometres)	Total Length (Lane kilometres)
Class 6	Unpaved and Rural	30.4	30.4
Class 5	Paved and Rural	11.6	40.5
	Unpaved and Rural	28.9	
Class 4	Paved and Rural	118.3	441.5
	Unpaved and Rural	323.2	

4.2 Level of Service

The Township of Mulmur provides the following level of service during the winter maintenance season, as set out in 4.3, in response to a winter event.

The minimum standard for clearing snow accumulation is:

Snow Accumulation and Ice Formation Policy

The Township of Mulmur follows Reg 239/02 of MMS Section 4 and 5

4.2.1. Snow accumulation, roadways

Subject to section 4.1, the standard for addressing snow accumulation on roadways is,

- (a) after becoming aware of the fact that the snow accumulation on a roadway is greater than the depth set out in the Table to this section, to deploy resources as soon as practicable to address the snow accumulation; and
- (b) after the snow accumulation has ended, to address the snow accumulation so as to reduce the snow to a depth less than or equal to the depth set out in the Table within the time set out in the Table,
 - (i) to provide a minimum lane width of the lesser of three metres for each lane or the actual lane width, or
 - (ii) on a Class 4 or Class 5 highway with two lanes, to provide a total width of at least five metres. O. Reg. 47/13, s. 4; O. Reg. 366/18, s. 5 (1).

If the depth of snow accumulation on a roadway is less than or equal to the depth set out in the Table to this section, the roadway is deemed to be in a state of repair with respect to snow accumulation. O. Reg. 47/13, s. 4.

For the purposes of this section, the depth of snow accumulation on a roadway and, if applicable, lane width under clause (1) (b), may be determined in accordance with subsection by a municipal employee, agent or contractor, whose duties or responsibilities include one or more of the following:

- Patrolling highways.
- Performing highway maintenance activities.
- Supervising staff who perform activities described in paragraph 1 or 2. 0. Reg. 47/13, s. 4; 0. Reg. 366/18, s. 5 (2).

The depth of snow accumulation on a roadway and lane width may be determined by,

- performing an actual measurement;
- monitoring the weather; or
- performing a visual estimate. 0. Reg. 47/13, s. 4; 0. Reg. 366/18, s. 5 (3).

For the purposes of this section, addressing snow accumulation on a roadway includes,

- (a) plowing the roadway;
- (b) salting the roadway;
- (c) applying abrasive materials to the roadway;
- (d) applying other chemical or organic agents to the roadway;
- (e) any combination of the methods described in clauses (a) to (d). 0. Reg. 366/18, s. 5 (4).

This section does not apply to that portion of the roadway,

- (a) designated for parking;
- (b) consisting of a bicycle lane or other bicycle facility; or
- (c) used by a municipality for snow storage. 0 . Reg. 366/18, s. 5 (4).

TABLE
SNOW ACCUMULATION - ROADWAYS

Class of Highway	Depth	Time
1	2.5 cm	4 hours
2	5 cm	6 hours
3	8 cm	12 hours
4	8 cm	16 hours
5	10cm	24 hours

O Reg. 47/13, s. 4; O. Reg. 366/18, s. 5 (5).

Snow accumulation on roadways, significant weather event

4.2.2. If a municipality declares a significant weather event relating to snow accumulation, the standard for addressing snow accumulation on roadways until the declaration of the end of the significant weather event is,

- to monitor the weather in accordance with section 3.1; and
- if deemed practicable by the municipality, to deploy resources to address snow accumulation on roadways, starting from the time that the municipality deems appropriate to do so. O. Reg. 366/18, s. 7.

If the municipality complies with subsection (1), all roadways within the municipality are deemed to be in a state of repair with respect to snow accumulation until the applicable time in the Table to section 4 expires following the declaration of the end of the significant weather event by the municipality. O. Reg. 366/18, s. 7.

(2) Following the end of the weather hazard in respect of which a significant weather event was declared by a municipality under subsection (1), the municipality shall,

- (a) declare the end of the significant weather event when the municipality determines it is appropriate to do so; and
- (b) address snow accumulation on roadways in accordance with section 4. O. Reg. 366/18, s. 7.

Ice formation on roadways and icy roadways

The standard for the prevention of ice formation on roadways is doing the following in the 24-hour period preceding an alleged formation of ice on a roadway:

- Monitor the weather in accordance with section 3.1.
- Patrol in accordance with section 3.
- If the municipality determines, as a result of its activities under paragraph 1 or 2, that there is a substantial probability of ice forming on a roadway, treat the roadway, if practicable, to prevent ice formation within the time set out in Table 1 to this section, starting from the time that the municipality determines is the appropriate time to deploy resources for that purpose. O. Reg. 366/18, s. 8.

If the municipality meets the standard set out in subsection (1) and, despite such compliance, ice forms on a roadway, the roadway is deemed to be in a state of repair until the applicable time set out in Table 2 to this section expires after the municipality becomes aware of the fact that the roadway is icy. O. Reg. 366/18, s. 8.

Subject to section 5.1, the standard for treating icy roadways is to treat the icy roadway within the time set out in Table 2 to this section, and an icy roadway is deemed to be in a state of repair until the applicable time set out in Table 2 to this section expires after the municipality becomes aware of the fact that a roadway is icy. O. Reg. 366/18, s. 8.

For the purposes of this section, treating a roadway means applying material to the roadway, including but not limited to, salt, sand or any combination of salt and sand. 0. Reg. 366/18, s. 8.

For greater certainty, this section applies in respect of ice formation on bicycle lanes on a roadway, but does not apply to other types of bicycle facilities. 0. Reg. 366/18, s. 8.

ICE FORMATION PREVENTION

Class of Highway	Time
1	6 hours
2	8 hours
3	16 hours
4	24 hours
5	24 hours

0. Reg. 366/18, s. 8.

TABLE 2 TREATMENT OF ICY ROADWAYS

Class of Highway	Time
1	3 hours
2	4 hours
3	8 hours
4	12 hours
5	16 hours

Icy roadways, significant weather event

If a municipality declares a significant weather event relating to ice, the standard for treating icy roadways until the declaration of the end of the significant weather event is,

- to monitor the weather in accordance with section 3.1; and
- if deemed practicable by the municipality, to deploy resources to treat icy roadways, starting from the time that the municipality deems appropriate to do so. 0. Reg. 366/18, s. 8.

If the municipality complies with subsection (1), all roadways within the municipality are deemed to be in a state of repair with respect to any ice which forms or may be present until the applicable time in Table 2 to section 5 expires after the declaration of the end of the significant weather event by the municipality. 0. Reg. 366/18, s. 8.

Following the end of the weather hazard in respect of which a significant weather event was declared by a municipality under subsection (1), the municipality shall,

- declare the end of the significant weather event when the municipality determines it is

- appropriate to do so; and
- treat icy roadways in accordance with section 5. 0. Reg. 366/18, s. 8.

TABLE
SNOW ACCUMULATION

Class of Highway	Depth	Time
1	2.5 cm	4 hours
2	5 cm	6 hours
3	8 cm	12 hours
4	8 cm	16 hours
5	10 cm	24 hours

TABLE
ICE FORMATION PREVENTION AND ICY ROADWAYS

Class of Highway	Time
1	3 hours
2	4 hours
3	8 hours
4	12 hours
5	16 hours

The snow accumulation and ice-formation policies are attached herein as a separate document, in Appendix 3-1

4.2.2. Private Sidewalk Responsibility

The walkway between Jeffery Drive and Thompson Trail is our organization's responsibility.

4.2.3 Plowing Private Property

Private properties are the responsibility of respective owners.

4.2.4 Windrow removal

Property owners will be responsible for removal of the windrow at the bottom of their driveways.

4.3 Winter Season Maintenance

For Operational purposes, the Township of Mulmur assumes the winter season commences on 2023-Dec-01 and is completed by 2024-Mar-31 , while acknowledging that winter events may occur outside of this timeframe.

4.4 Winter Preparations

In the months prior to the start of the winter maintenance season, as identified in 4.3, the Township of Mulmur undertakes the following tasks to prepare for the upcoming winter season.

4.4.1. Prior to Winter Season

Prior to the winter season, if required, prepare and call tenders for the supply of materials (e.g. salt, sand, liquid, etc.), replacement parts (for plows, solid and liquid application equipment), value added meteorological services (VAMS) and contract equipment (e.g. plow trucks, spreader trucks, combination units, etc.).

Prior to the winter season the Township of Mulmur will:

Conduct a mandatory training session for staff and contract operators where all policies, procedures, schedules, reporting procedures for callout, route maps, equipment training and safety precautions will be discussed. Any issues resulting from the meeting with regard to the policies, procedures, schedules, reporting procedures for callout, route maps, equipment training and safety precautions shall be resolved either at the meeting or prior to the winter season.

Train winter patrollers (or staff whose duties also include patrolling) on the route of representative roads to be patrolled, their duties during a winter event, record keeping requirements, callout procedures and the de-icing chemicals to be applied for the forecast weather conditions.

Inspect equipment to ensure proper working order. Schedule and complete any and all equipment repairs.

Arrange for the delivery of materials (salt, sand and liquid solution) and begin filling storage facilities. If liquid solution is mixed on site, begin mixing and filling storage tanks.

Confirm that all guiderail, catchbasin, hazard and fire hydrant markers, steep hill, sharp curve ahead warning signs, bridges ices sign, if any, are in place. Any missing markers should be replaced prior to the winter session.

4.4.2. One Month Prior to the Winter Season

One month prior to the winter season the Township of Mulmur will:

- Post the winter shift schedule
- Assign equipment to staff.
- Calibrate material application equipment.
- Allow operators (staff and contract) time to familiarize themselves with any new equipment, material application rates, material application equipment and their route (driving the route and noting obstacles along the route).
- Assign staff to monitor and record weather forecasts on a daily basis. Upon the forecast of an approaching winter event, schedule a patrol of a route of representative roads. If a winter event is forecast prior to the start of the next scheduled shift a night and/or weekend patrol(s) of a route of representative roads should be scheduled. If a night or weekend patrol is scheduled the patroller should monitor and record the weather forecast and road conditions. The patrol person should be authorized to initiate a winter event response if conditions warrant a response.
- Have 10 % of the fleet ready to respond to a winter event.
- Have sufficient staff available to operate the fleet if conditions warrant a winter event response.

4.4.3 Two Weeks Prior to the Winter Season

Two weeks prior to the winter season the Township of Mulmur will:

- Have 75 % of the fleet ready to respond to a winter event.
- Have staff available to operate the required complement of the fleet if conditions warrant a winter event response

4.4.3. At the Start of the Winter Season

At the start of the winter season:

- Implement the winter shift schedule.
- Begin patrolling representative roads in all roads/areas that the organization is responsible for
- Respond to winter events as per the winter operations plan.

4.5. Winter Patrol

During the winter maintenance season, 4.3, *Township of Mulmur* carries out a winter patrol on a route of representative roads daily, on Weekends & Holidays. Monday to Friday, Roads are patrolled by equipment operators during regular winter maintenance operations. Between winter events a patrol of representative roads will occur during day shift and a second patrol will be also be scheduled during the afternoon shift as required. The purpose of the patrol is to monitor and record weather and road conditions and mobilize winter maintenance operators and equipment should a winter event be observed and a winter event response is required. On the approach of a winter event or during a winter event the route of representative roads may be modified, insofar as reasonably practicable, depending on the type and severity of winter event or the direction from which the storm approaches. The patrol person/equipment operator will be familiar with local conditions in their patrol area, and advise their Public Works Foreperson of road and weather conditions as well as any actions taken during the shift. The winter patrol schedule parallels the designated winter season.

4.6. Operations

4.6.1. Staffing and Hours of Work

The Township of Mulmur has a full time employee assigned to each vehicle used for winter operations. Each vehicle is assigned a route for sanding/salting and/or plowing and ice blading. The Township of Mulmur adheres to the hours of service as dictated by Highway Traffic Safety Act, Reg. 555/06 (Ontario, Canada).

Staffing for Winter Maintenance				
Employee	Job Title	Reports to Facility	Assigned Route(s)	Assigned Equipment
Dan Reid - Weekends - 4:00 AM to 8:00 AM On call Saturdays & Sundays	Weekend Patrol	Main Shop – Terra Nova	2024-2025 WEEKEND PATROL	P-6
Alex Kozak	Sidewalk Contractor	Main Shop - Terra Nova	Jeffery to Thomson Trail	Alex Kozak - snow blower
Mike Bates Days 4:00 AM to 12:30 PM	Equipment Operator	Main Shop - Terra Nova	#3	G-4, T-9
Chris Marshall Days - 4:00 AM - 12:30 PM	Equipment Operator	Main Shop - Terra Nova	#6	T-11, T-10, L-3
Dean Morby Days - 4:00AM to 12:30 PM	Equipment Operator	Main Shop - Terra Nova	#1	G-7, J-1, T-12, P-6
Jon Squirrell Days – 4:00AM to 12:30 PM	Equipment Operator	Main Shop - Terra Nova	#4	T-9, L-3 J-1
Mark McArthur Days – 4:00 AM - 12:30 PM	Equipment operator	Main Shop - Terra Nova	#5	T-12, L-3 T-10
Logan Davidson Days - 4:00 AM to 12:30 PM	Equipment Operator	Main Shop - Terra Nova	#2	G-6, J-1, T-11
Mel Seabourne Afternoons – 1:30 pm to 10 pm	Equipment Operator	Main Shop - Terra Nova	Afternoon Route	T-9, T-10, L-3, P-6
Peter Corlett Afternoons – 1:30 pm to 10 pm	Equipment Operator	Main Shop - Terra Nova	Afternoon Route	T-10, T-11, P-6

Some of the key responsibilities associated with the management and overseeing of winter operations for this winter season are as below:

- Foreman will receive issues and concerns of the citizens regarding snow and ice control efforts.
- Foreman will be responsible for making operational decisions.
- Foreman will be authority to which the field staff will communicate the field conditions to.
- Foreman will be responsible for shift scheduling.
- Foreman will (when physically possible) be responsible for providing appropriate signage and or barricades in case a road has to be closed due to severe winter storm.
- Foreman will ensure media releases are sent to local news and radio stations advising of road closures.

4.6.2. Winter Material Used Annually

Primary Solid Material	Brand Name or Supplier	Expected Quantity this Season vs. Actual Quantity Last Season	Comes Pre-Mixed with	In-House Mix Added
Sand	Township of Mulmur winter sand	4500.0 Tonnes(Can) vs. 3200.0 Tonnes(Can)		Salt (NaCl) 0.05%

4.6.3. Application Rates

	Min. and Max. Ranges (Tonnes/lane-kilometre)		
	0.0 to -5.0 CELSIUS	-5.0 to -10.0 CELSIUS	-10.0 to -18.0 CELSIUS
Frost	300.0 - 570.0	300.0 - 570.0	300.0 - 570.0
Light Snow	300.0 - 570.0	300.0 - 570.0	300.0 - 570.0
Heavy Snow	300.0 - 570.0	300.0 - 570.0	300.0 - 570.0
Freezing Rain	300.0 - 570.0	300.0 - 570.0	300.0 - 570.0

4.6.4 Equipment - Winter Maintenance Fleet

The Township of Mulmur provides winter maintenance services on 15 routes with the equipment listed in Appendix 3.

Vehicle Name or number	Vehicle Type	Associated Routes	Associated Employees	Location/Yard
Alex Kozak - snow blower	Other	Jeffery to Thomson Trail	Alex Kozak	Municipal Office
B-3	Backhoe	Yard	Mel Seabourne Afternoon – 1:30 to 10 PM Chris Marshall Days 4 am to 12:30 PM	Main Shop - Terra Nova
G-4	Grader	#3	Mike Bates Days-4AM to 12:30 PM	Main Shop - Terra Nova
G-6	Grader	#2	Logan Davidson DAYS - 4:00 AM to 12:30 PM	Main Shop - Terra Nova
G-7	Grader	#1	Dean Morby DAYS - 4:00 AM to 12:30 PM	Main Shop - Terra Nova
J-1	Tractor	Snow Blowing	Dean Morby Days - 4:00 AM to 12:30 PM Peter Corlett Afternoons – 1:30 to 10 PM Logan Davidson DAYS - 4:00 AM to 12:30 PM	Municipal Office
L-3	Loader	Yard	Chris Marshall Days - 4:00 AM - 12:30 PM Mel Seabourne Afternoon – 1:30 to 10 PM, Bruce Crawford Days 8AM to 4 PM	Main Shop - Terra Nova
P-7	F 150	2024/2025 PATROL	Bruce Crawford Days 7 AM to 3:30 PM	Main Shop - Terra Nova
P-6	GMC	2024/2025 WEEKEND PATROL	Dan Reid Weekends - 4:00 AM to 8:00 AM On call Saturdays & Sundays	Main Shop - Terra Nova
T-10	Single Axle	#3, #2, #1, #4,	Chris Marshall Days - 4:00 AM - 12:30 PM Dean Morby DAYS - 4:00 AM to 12:30 PM Peter Corlett Afternoon – 1:30 to 10 PM	Main Shop

Vehicle Name or number	Vehicle Type	Associated Routes	Associated Employees	Location/Yard
T-10	Single Axle	#5, #6	Logan Davidson DAYS - 4:00 AM to 12:30 PM Peter Corlett Afternoon – 1:30 to 10 PM	- Terra Nova
T-11	Tandem Axle	#6	Chris Marshall Days - 4:00 AM to 12:30 PM Peter Corlett Afternoon 1:30 to 10 PM	Main Shop - Terra Nova
T-12	Tandem Axle	#5	Mark McArthur Days - 4:00 AM to 12:30 PM,	Main Shop - Terra Nova
T-8	Tandem Axle	#1-2-3-4-5-6	Mike Bates DAYS - 4:00 AM to 12:30 PM Mel Seabourne Afternoon 1:30 to 10 PM	Main Shop - Terra Nova
T-9	Tandem Axle	#4	Mel Seabourne Afternoon – 1:30 to 10 PM Jon Squirrell Days - 4 AM to 12:30 PM	Main Shop - Terra Nova

4.6.4.1. Mechanics

The Township of Mulmur has:

- 0 in-house mechanic(s) available
- 1 external (e.g. contracted) mechanic(s) available
- Facilities with mechanics include:
 - Main Shop - Terra Nova
- The timings for the above mechanics are as below:
 - On Call

4.6.5. Winter Maintenance Facilities

The Township of Mulmur provides winter maintenance services from the winter maintenance facilities listed below.

4.6.5.1 Main Shop - Terra Nova

Facility Type:

Patrol Yard

Facility Address:

Winter Operations Plan

Shop, 758070 2nd Line E.,
Mulmur, Ontario L9V 0G8, Canada
Facility Phone:
705-466-3341

Number of Front-end Loaders: 2

Year Built:
1970

Updates and Enhancements:

2018 – Generator

2022 – 2 Equipment bays

Design and Logistics:

- All materials are handled in a designated area characterized by an impermeable surface
- Equipment is not in place to prevent overloading of trucks
- System is not in place for collection and/or treatment of wastewater from cleaning of trucks
- Control and diversion of external waters (not impacted by salt) is not in place
- Ongoing clean-up of the site surfaces and spilled material is swept up quickly
- Risk management and emergency measures plans are in place

Material Storage Details:

- There is storage space available inside of this facility. It presently stores: Winter Sand – 4000.0 Tonnes (Can)
- There is no storage space available outside of this facility.

Equipment Storage Details:

All equipment is stored in a heated shop

Equipment Washing Details:

All equipment is washed out side on a large asphalt pad.

Miscellaneous Material Details:

4500 ton Sand Dome

Site Drainage Details:

- There isn't any drainage and collection system for runoff of salt- contaminated waters at this facility
- The chloride concentration in the runoff is not monitored This site discharges to:
- Additional Site Storage Details

4.6.6. Parking Lots

The Township of Mulmur provides winter maintenance services to the listed parking lots below.

4.6.15. 4.6.6.1. Municipal Office

Facility Address: Municipal Office, 758070 2nd Line E. , Mulmur, Ontario L9V 0G8, Canada

Number of Parking Spots: 50

Responsibility to maintain: Township of Mulmur The lot is not used for storage or disposal of snow. The drainage from this lot is controlled.

Service Policy:

Parking Lot is plowed as needed by road staff

4.6.7. Snow Removal and Disposal

The Township of Mulmur is working with the Ministry of Environment, Conservation and Parks (MECP) to amend the Environmental Compliance Approval (ECA) to designate an area of the closed landfill as a snow disposal site. RJ Burnside has provided some of the technical requirements to assist with securing MECP approval.

4.6.8. Plow Routes

Appendix 2 contains maps of the salt/sand routes, anti-icing routes and plow routes.

4.6.9. Salt Vulnerable Areas

Certain locations within the area of responsibility of the Township of Mulmur have been identified as being potentially vulnerable to the over-application of road salt. These areas are shown on the route maps in the appendices. Accordingly, salt storage, snow disposal and material application in these areas will be strictly monitored and in some cases may be restricted in a variety of ways.

4.6.9.1. Mansfield Water System Well # 1

Facility Address:

Area Footprint: 12.36 Acres

Additional Details: Deep well that supplies water to the Mansfield water system located at 937012 Dufferin County Rd. 18

Mitigation Measures: no snow storage in this area

Associated Vulnerabilities: Drinking water (surface or groundwater)

4.6.9.2 Mansfield Water System Well # 3

Facility Address:

Area Footprint: 29.65 Acres

Additional Details: Deep well that supplies water to the Mansfield water system located at 12 Somerville Crescent Mansfield.

Mitigation Measures: No snow storage in the area

Associated Vulnerabilities: Drinking water (surface or groundwater)

4.6.9.3 Mansfield Water System Well # 2

Facility Address:

Area Footprint: 9.88 Acres

Additional Details: Deep well that supplies water to the Mansfield water system located at 936541 Dufferin County Rd 18

Mitigation Measures: No snow storage in the area

Associated Vulnerabilities:

4.6.10. Weather Monitoring

In order to determine an effective winter event response and allocate the appropriate resources the Township of Mulmur supplements their general observations with weather information from various sources which includes:

- Observations from municipal staff, communication with staff of adjacent municipalities;
- Customized weather forecasts which are updated 4 times/day from a Value Added Meteorological Service Wood RWIS Forecast

4.6.11. Communications

Maintaining reliable internal communications is a critical component of winter operations. The Township of Mulmur uses the following:

- Social Media, Local Radio or TV
- All winter maintenance vehicles are equipped with two way communications (radios, cell phone, etc.).
- Township of Mulmur provides a call centre which:
 - Serves as the main hub for in/outgoing calls from general public. Is open during the winter season identified in section 4.3 in this document and is staffed from 8:30 AM to 4:30 PM.
 - Is available on Monday, Tuesday, Wednesday, Thursday and Friday.

All citizen issues concerning snow and ice control efforts will be routed to Public Works Foreperson. Public Works Foreperson will determine appropriate follow-up responses to citizen inquiries.

The municipality provides external communication with the general public via:

Information posted on the municipality's web site (www.mulmur.ca)

Other means of providing information on winter maintenance services and salt management practices).

4.6.12. Boundary Street Jurisdiction and Responsibility

The table below outlines the responsibilities of each agency has to the roads bordering with the Township of Mulmur. The agencies listed in the table have first response maintenance responsibility to these roads. If the Township of Mulmur has its snow routes open and serious problems remain on the boundary streets, The Township of Mulmur snow plows may assist based upon the judgement of Public Works Foreperson on duty.

TABLE

Organization, and Contact	Responsibility Details	Telephone Number	Boundary Roads
Town of Mono Matt Doner	Director of Public Works	519-941-3599	Mulmur Mono Townline
Township of Adjala/Tosoronto John Wilmetts	Interim Director of Engineering & Public Works	705-434-5055 ex 269	Mulmur 20 to N.T.L Tos 15 SDRD to 89
Township of Clearview Dan Perreault	Director of Public Works	705-428-6230 ex 230	Mulmur Centre – Mel T.L.
Township of Melancthon Craig Micks	Public Works Superintendent	519-925-5525	Mulmur 17 to 89 Mel 15 to NTL

4.6.13 Callout Procedures

Operational decisions will be made by the Public Works Foreperson or his/her designate with the aid of available forecasting, Level of Service policy, patrolling etc. However, it should be emphasized that decisions will be subjective and external input, whether in this plan or elsewhere, merely acts as an aid in determining if a call out of staff and equipment by the Public Works Foreperson to respond to a winter event is warranted.

It is vital therefore that the Public Works Foreperson records the prevalent conditions and relevant information when he/she makes a decision.

The patrol person/winter control persons shall inform the Public Works Foreperson or his/her designate of the changing of road and weather conditions observed in the field. When a winter event response is required the Public Works Foreperson or his/her designate will contact the staff as per the shift schedule and the direction given by the Public Works Foreperson. In the absence of the Public Works Foreperson the patrol person shall be his/her designate and initiate a call out in response to a winter event. Policy states ½ hour arrival time.

6.6.14 Road Closure and Procedures

In the event a road must be closed due to a severe winter storm, O.P.P. will request signs be placed to close the road. Appropriate signage and barricades will be available at the patrol yard. Upon receiving a request from O.P.P. to close a road to traffic, the Public Works Foreperson or his/her designate will organize manpower and equipment to place the signs and barricades. The Public Works Foreperson or his/her designate will contact the call centre and request that a media release (Appendix 5-1) be sent to the local news and radio stations advising of the road closure. Roads will be deemed to be closed once the signs and barricades are placed. When it is physically impossible to place signs and barricades to close a road, the Public Works Foreperson or his/her designate will advise O.P.P. and request O.P.P. permission to send the media release (Appendix 5-2).

4.6.16. Declaration of Emergency Parking Ban

Cars parked on the streets during a snow removal effort may be ticketed and/or towed away. A snow emergency parking ban may be declared by Public Works Foreperson, or their designee. The O.P.P. and media will be notified when the parking ban is initiated.

4.6.17. Operating Instructions and Safety Rules

All individuals (whether local staff or contracted) shall abide by operating instructions and safety rules as stated in Appendix 6.

4.7. Decommissioning Winter Operations

After the winter season identified in 4.3 expires, the Township of Mulmur undertakes the following tasks to decommission winter operations:

4.7.1. Two Weeks After the Winter Season Ends

Two weeks after the winter season ends:

Cease regularly scheduled winter night patrols. Continue monitoring and recording weather forecasts.

Assign night patrol shift if forecast indicates an overnight winter event is probable.

4.7.2. One Month After the Winter Season Ends

One month after the winter season ends:

Cease all winter highway maintenance operations Decommission the remainder of the equipment providing weather forecasts warrant the decommissioning.

4.8. Training

The Township of Mulmur provides winter operations training for all staff involved in the delivery of winter services.

Individuals in the following positions within and outside of the organization have been trained:

- Within Organization:
 - Operator(s) Patroller(s)
- Contracted Staff:
 - Manager(s)
 - Supervisor(s)
 - Operator(s)

It is compulsory for all staff, including contractor staff, to attend the training session. All trained staff will verify that the training was received by either signing the “Record of Training” included in Appendix 7-1 or 7-2, or another verification document.

Current winter operations training(s) for in-house staff:

- Equipment Circle Check Equipment Calibration Record Keeping
- Health and Safety
- Level of Service – policies, practices and procedures
- Identification of Plow Routes – including variations for year to year and issues identified along the route
- De-icing chemicals – application procedures, rates, storage and handling Identification of vulnerable areas
- Yard and Equipment maintenance

4.9. Record Keeping

Full and accurate completion of the documents listed below, according to the applicable procedures, ensures that the municipality is protected from liability by providing solid documentation that procedures have been followed.

Staff is responsible for keeping the following records:

For Equipment Operators:

- CDL Time Card
- Route Plowed and strategy used (plow only, salt/sand only, anti-ice, combination plowing/sanding/salting)

For Patrollers:

- Winter Patrol Record Call Out Diary
- Weather and/or RWIS Information Received

For Operations Supervisors:

- Operations Diary
- Incident/Collision Reports Equipment Calibration Records
- Has Automatic Vehicle Location (AVL) system installed on fleet

The date will be recorded as YYYY-MMM-DD. It will be written in a numerical format (2022-Nov-24). The time shall be documented using the 24 hour clock format.

Always retain the original copy of documents regardless of their appearance. Writing must be legible for others to read and written in ink. Stains or dirt on the documents is not an issue. If a document requires correction then a line is to be placed through the incorrect information without making it illegible and continue writing on the original document. Initial corrections or change in the colour of ink in a case where you change writing pens.

5 PLAN IMPROVEMENTS

The current winter maintenance policies, practices and procedures form the baseline or benchmark upon which improvements can be made to improve winter operations and/or the use and management of road salt.

Based upon the need to maintain continual service throughout the season, and the previous experience obtaining critical supplies and equipment at the height of the season, over the next ten years the Township of Mulmur plans to undertake a number of improvements that will be monitored and updated annually.

- Equipment
 - 2021-2022 Season: 2 Bay Addition to Main Shop

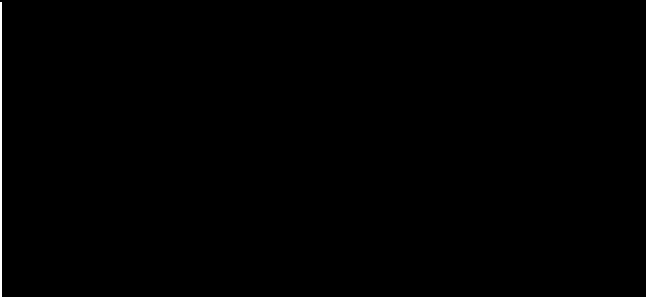
6 MONITORING AND UPDATING

Safe and sustainable winter operations includes, as one of its fundamental tenets, the monitoring and updating of winter operations plans, policies, practices and procedures (the “four Ps”) of the Township of Mulmur in an ongoing manner. To that end, the following continuous improvement cycle is used to refine the “four Ps” annually.



At the end of the winter season, as identified in 4.3, a meeting to review winter operations will be held each year with all winter operations staff to itemize all issues that arose during the winter season and discuss how these issues may be resolved. Prior to the start of the next winter season and with sufficient lead time to implement any changes, the Township of Mulmur shall train staff on the changes to equipment and/or winter maintenance policies, practices, and procedures.

The winter season of (2021/22) will be the benchmark year. Year over year achievement using the performance measures listed below will be measured against said benchmark year. Performance measures will be used to determine whether or not the objectives of the Winter Operations Plan and/or winter maintenance policies, practices, and procedures have been met.

<p>Monitoring the severity of the winter season:</p> <ul style="list-style-type: none"> • % change (+/-) in the total annual millimeters of precipitation from the benchmark year <ul style="list-style-type: none"> ○ 2022-23: 516.4 ○ 2023-24: 365.8 ○ 2024-25: 1020mm ○ % Change: 170 % 	<ul style="list-style-type: none"> • % change (+/-) in the total number of days of snow on ground <ul style="list-style-type: none"> ○ 2022-23: 94 ○ 2023-24: 23 ○ 2024-25: 108 ○ % Change: 370 %
<ul style="list-style-type: none"> • % change (+/-) in the total number of days with measurable snowfall above 5cm from the benchmark year <ul style="list-style-type: none"> ○ 2022-23- 20 days ○ 2023-24: 17 days ○ 2024-25: 22 days ○ % Change: + 22% 	<p>Monitoring the Salt Used:</p> <ul style="list-style-type: none"> • % change (+/-) in the total tons of salt purchased annually from the benchmark year <ul style="list-style-type: none"> ○ 2023-24: 50.0 ○ 2024-25 50.0 ○ % Change: +0.00
<ul style="list-style-type: none"> • % change (+/-) in the total number of days with freezing rain from the benchmark year <ul style="list-style-type: none"> ○ Last Season: 0 ○ This Season: 0 ○ % Change: +NaN • 	

7 ADDITIONAL DETAILS

5. DISTRIBUTION OF THIS PLAN

This Plan shall be distributed to the following:

- Mayor and City Council
- Director of Infrastructure
- Public Works Foreperson

8 DISCLAIMER

This Manual may be affected by at least one or more of the following events which could delay or alter snow and ice control by the Township of Mulmur:

1. Equipment breakdown
2. Vehicles disabled in deep snow.
3. Weather so severe as to cause work to be stopped for the safety of all personnel.
4. Unforeseen conditions and emergencies.
5. Significant medical related emergencies.

APPENDIX 1

Patrol Routes

(a.k.a. Routes of Representative Roads)

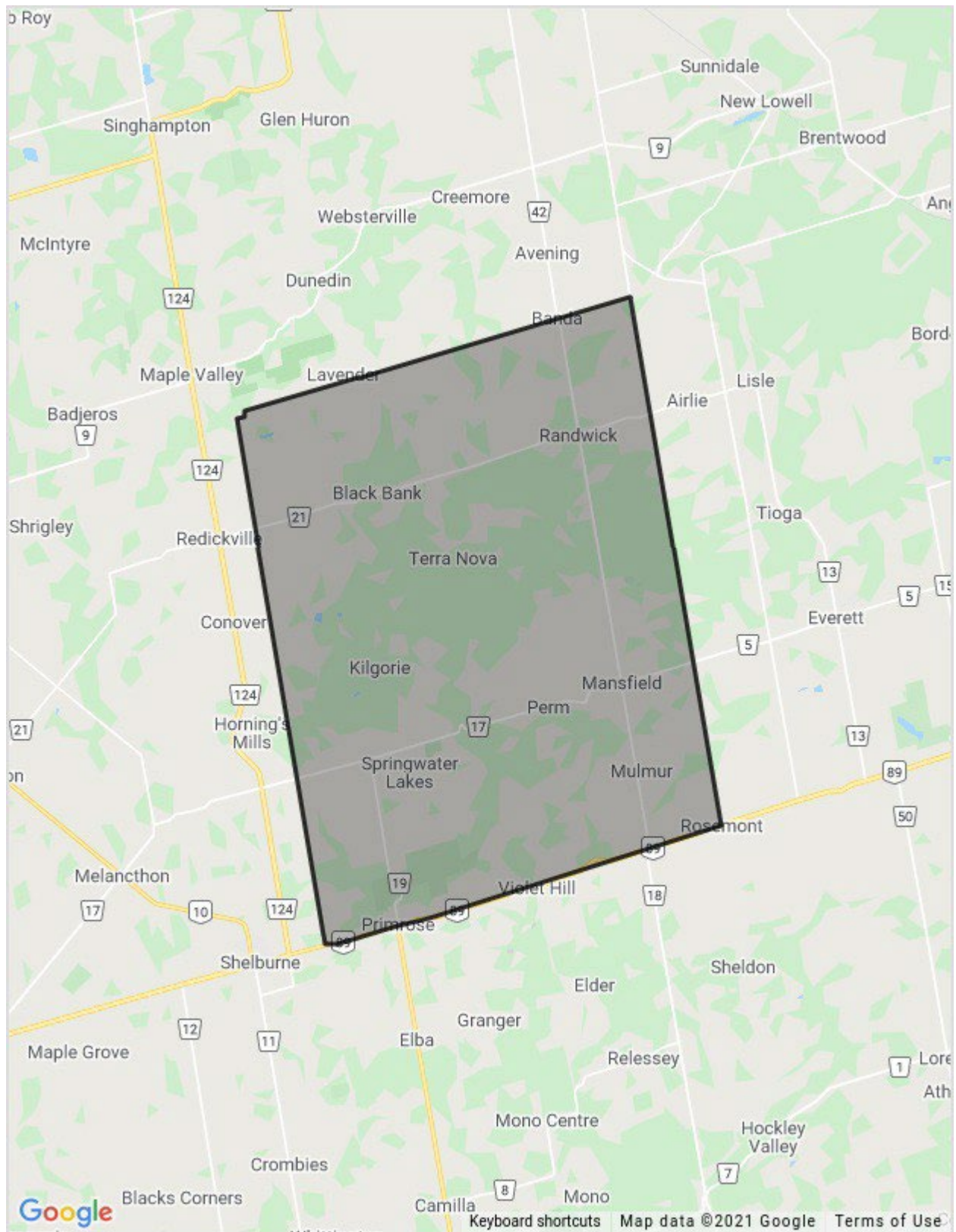
2025-26 WEEKEND PATROL
(Detail Capture 1 of 1) Patrol Routes

Patrol Distance: 157.32 Lane Kilometres



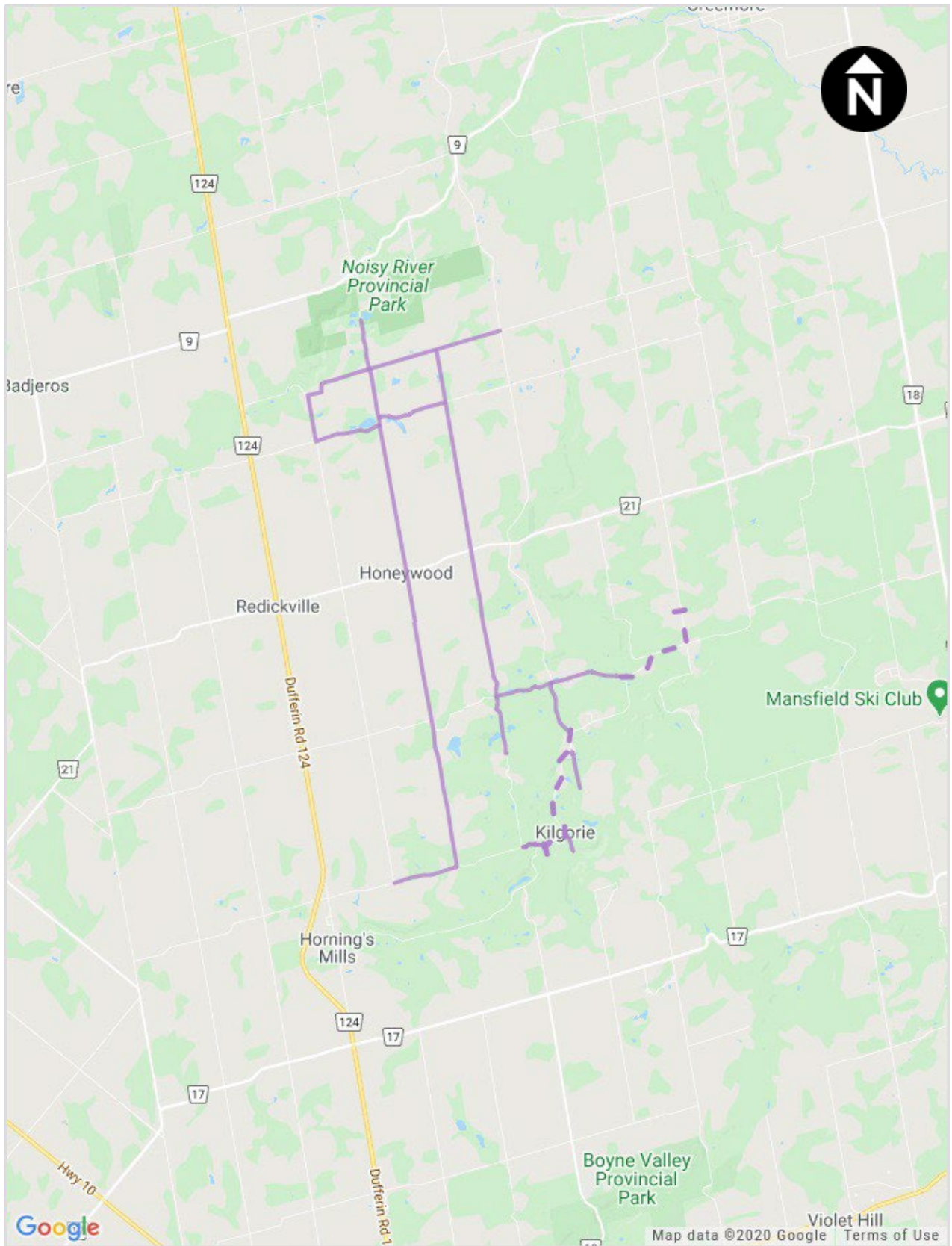
APPENDIX 2

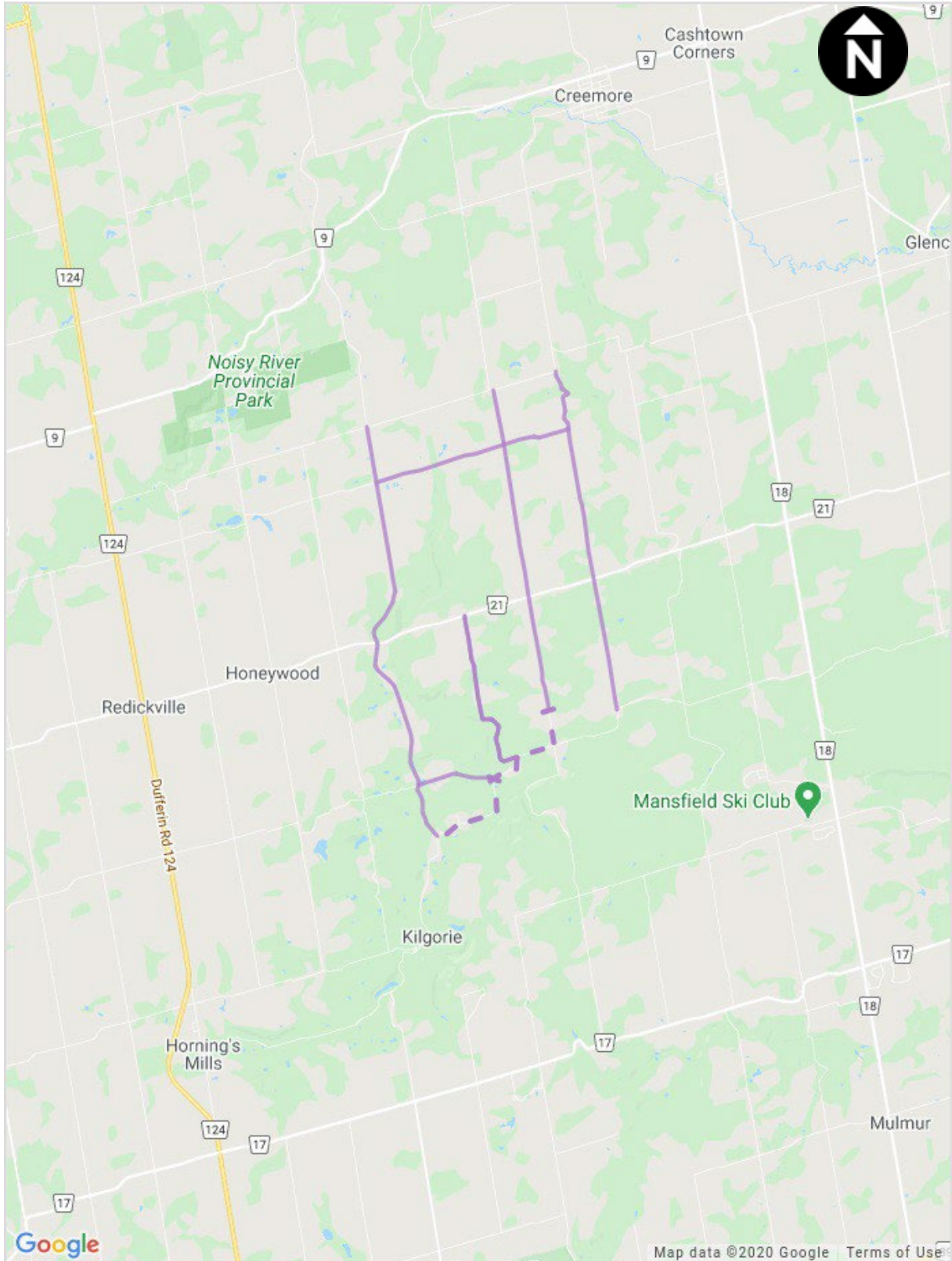
Road and Sidewalk Routes

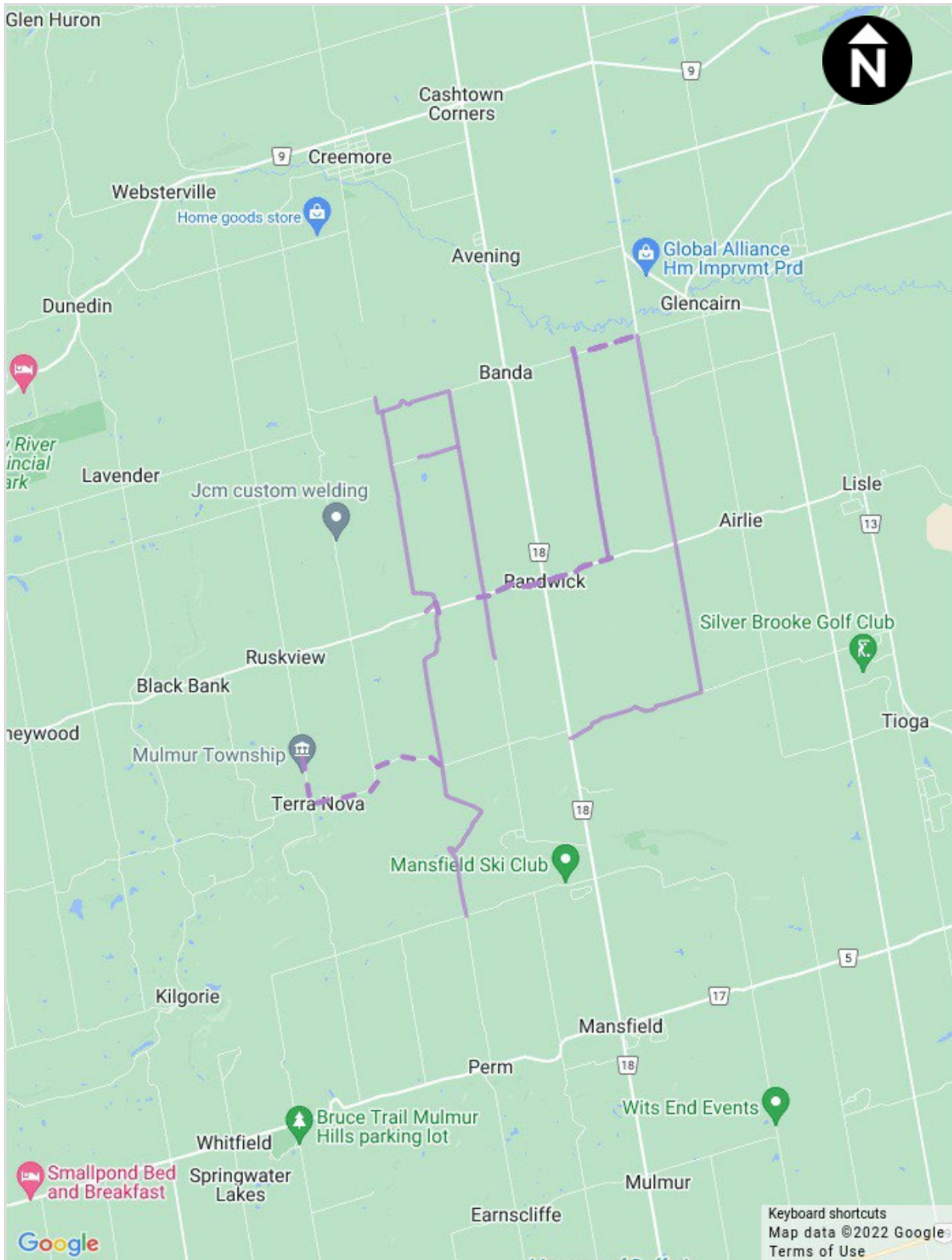


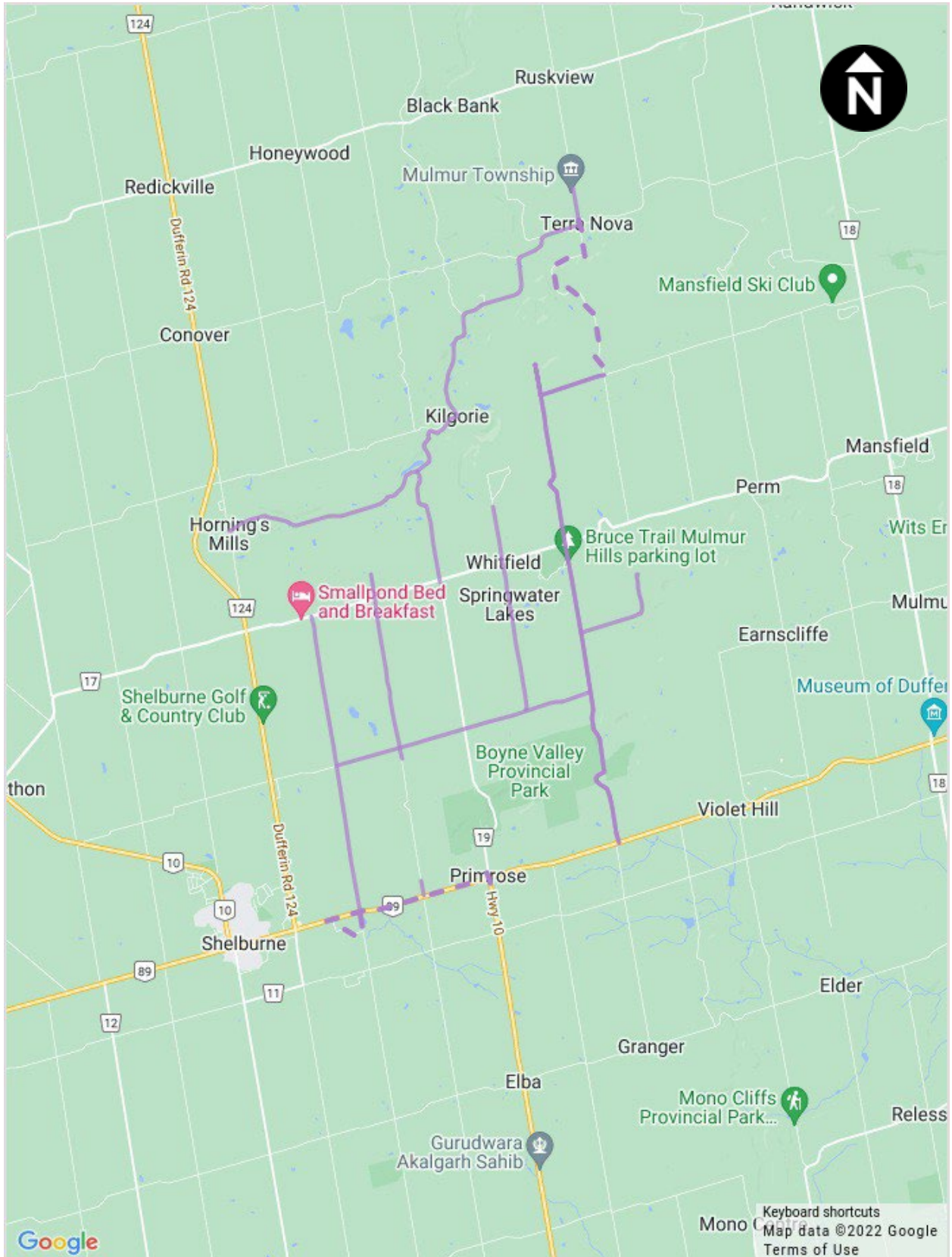
#1 (Detail Capture 1 of 1)
Roadway Route

Total Length: 77.11 Lane Kilometres



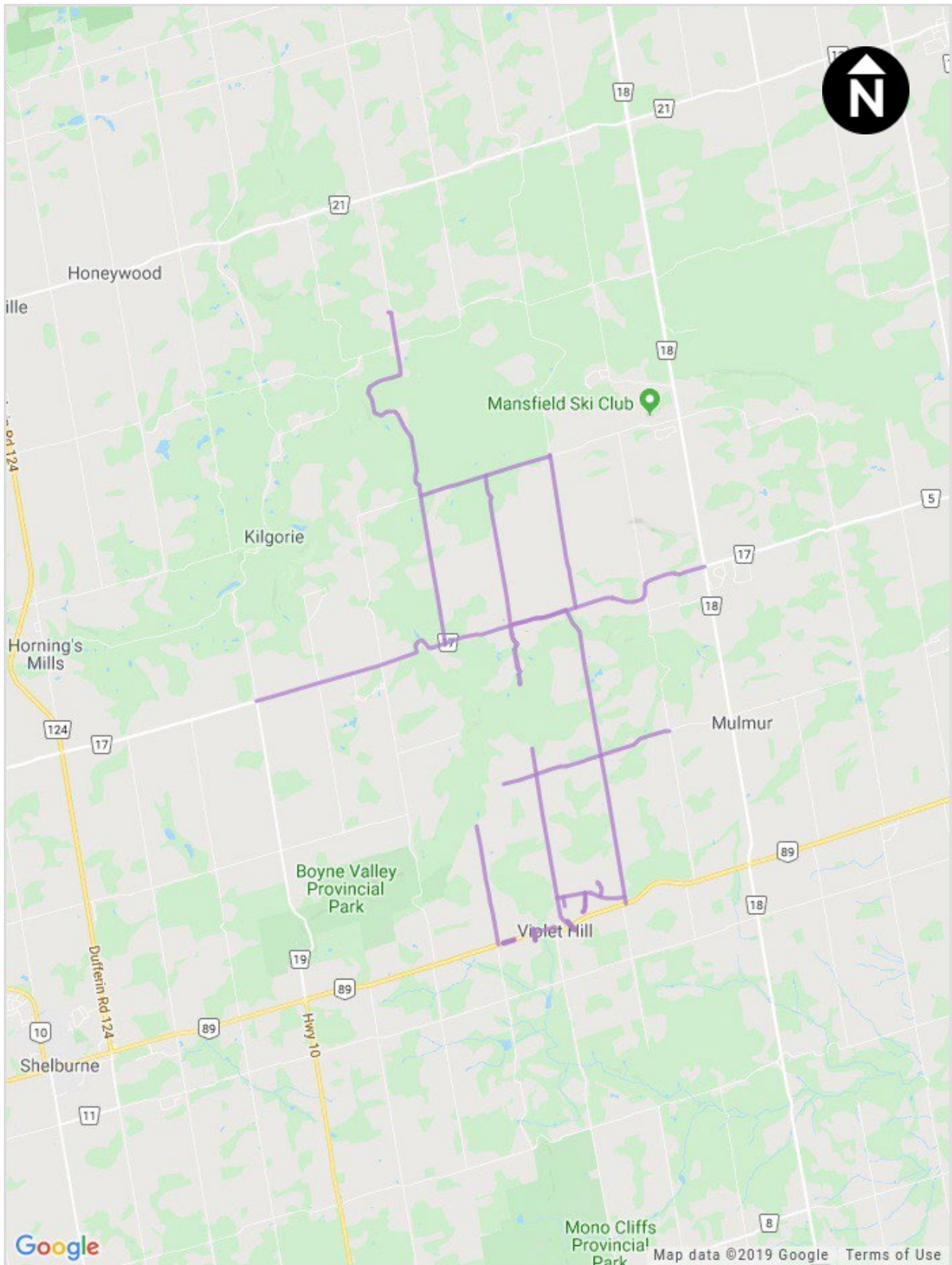


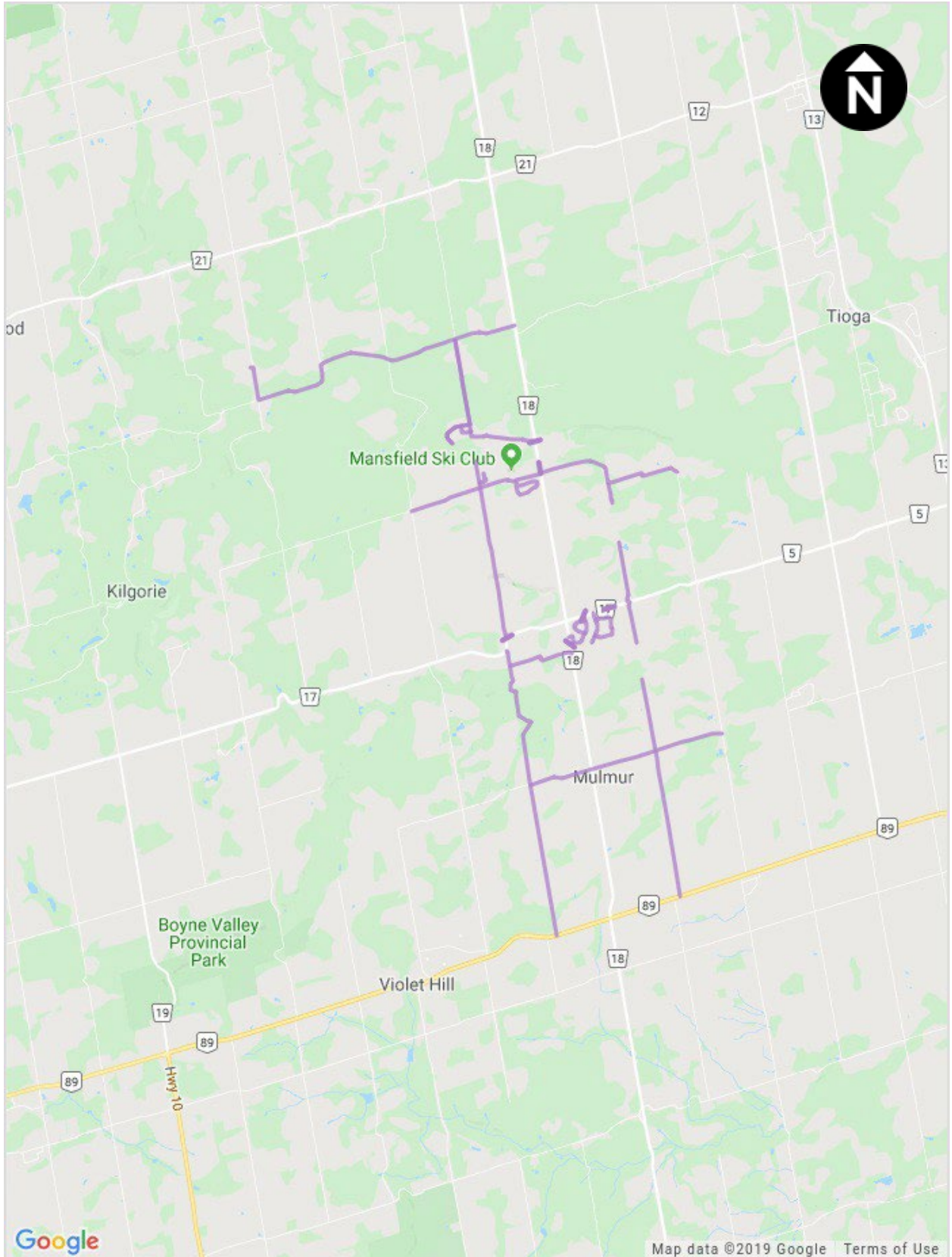


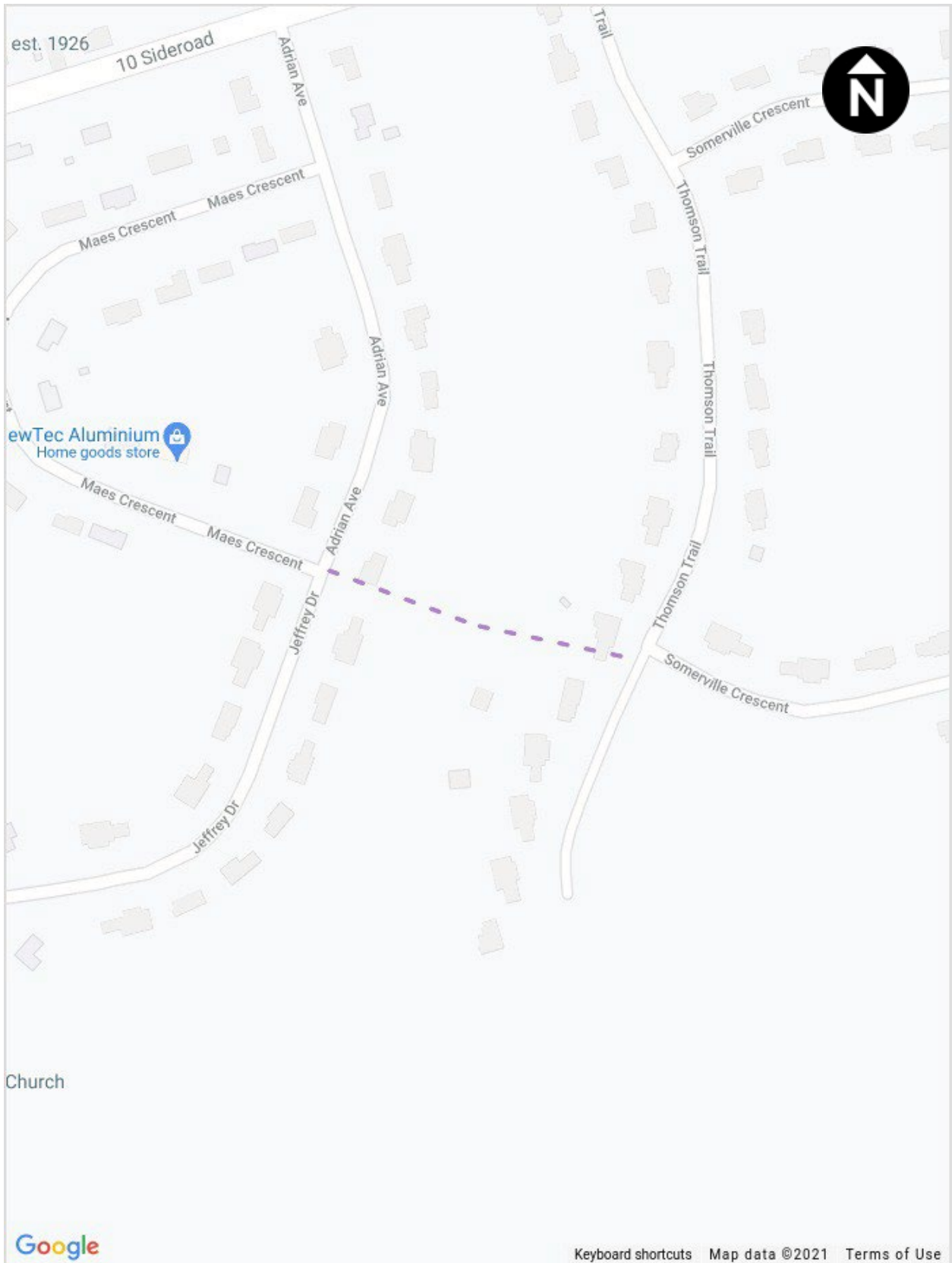


#5 (Detail Capture 1 of 1)
Roadway Route

Total Length: 100.56 Lane Kilometres

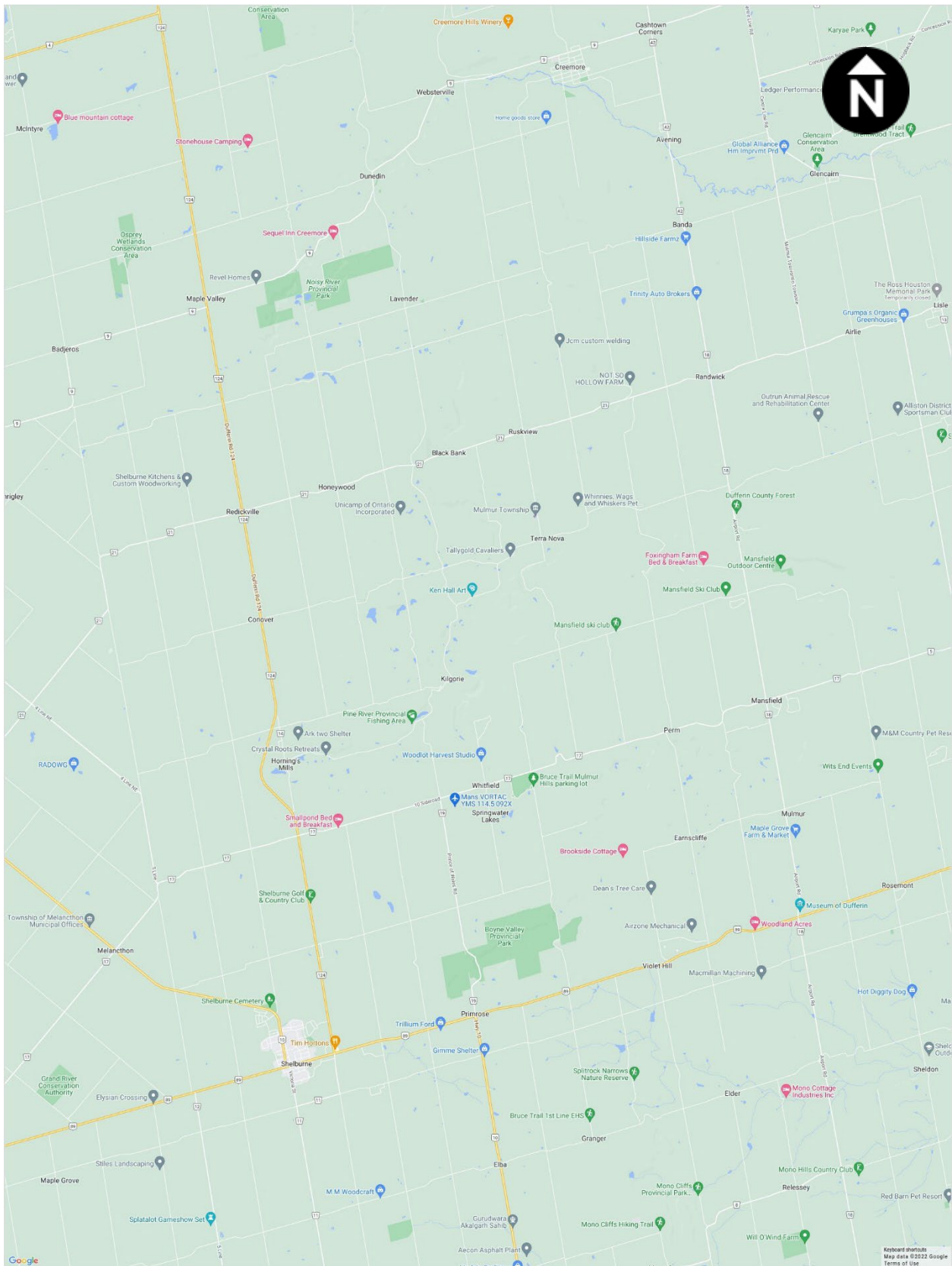






Snow Blowing Roadway Route

Total Length: 0.06 Lane Kilometres



APPENDIX 3

Equipment List

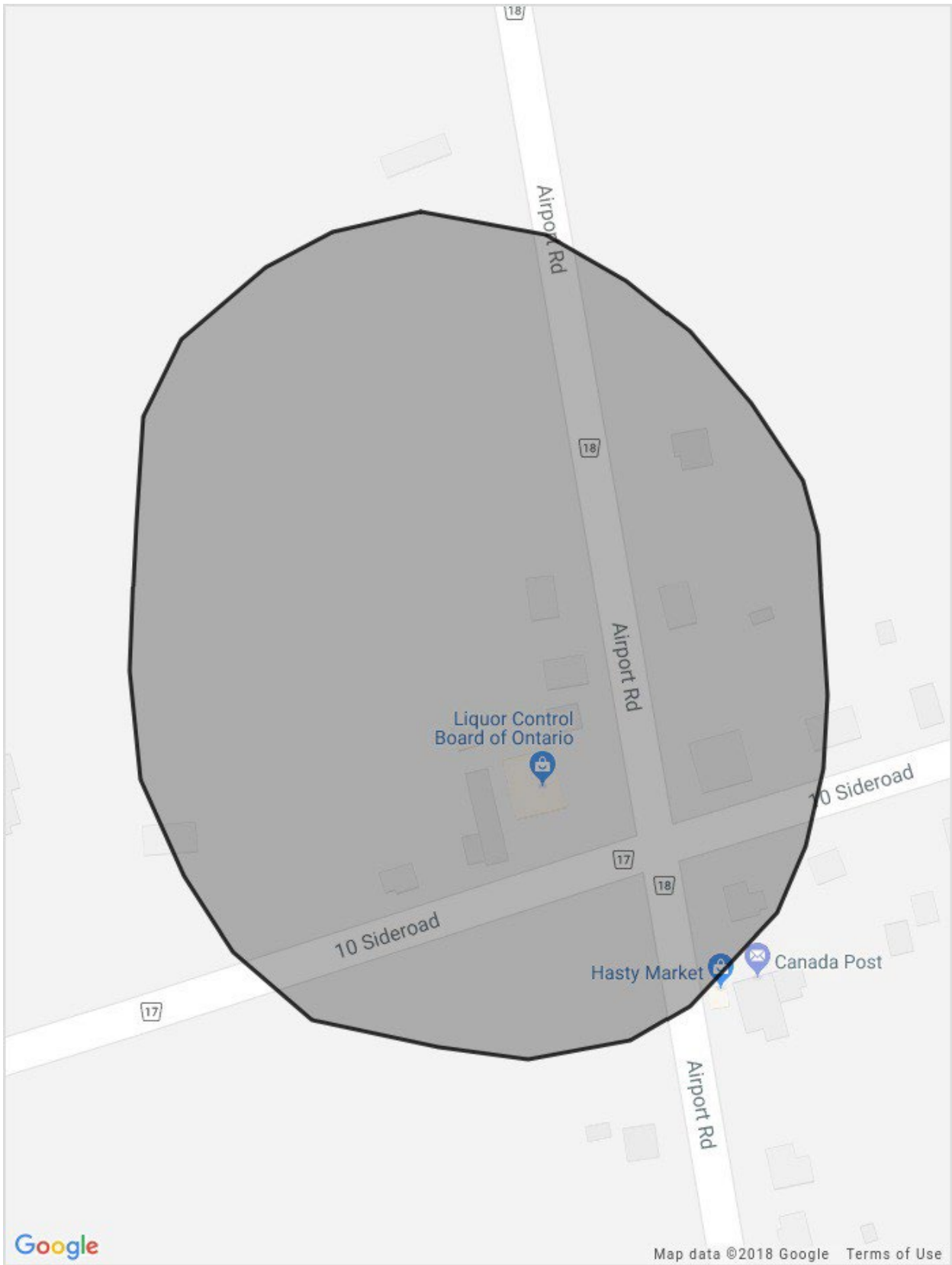
Equipment	Type	Owned By	Electronic Controller Installed	Calibration Date	Pre-Wet Capability	Anti- Icing Capacity	Infrared Thermometer installed
Alex Kozak - snow blower	Other		N	N/A	N	N	N
B-3	Other	Township of Mulmur	N	N/A	N	N	N
G-7	Grader	Township of Mulmur	N	N/A	N	N	N
G-4	Grader	Township of Mulmur	N	N/A	N	N	N
G-6	Grader	Township of Mulmur	N	N/A	N	N	N
J-1	Other	Township of Mulmur	N	N/A	N	N	N
L-3	Other	Township of Mulmur	N	N/A	N	N	N
P-6	Other	Township of Mulmur	N	N/A	N	N	N
P-7	Other	Township of Mulmur	N	N/A	N	N	N
T-10	Single Axle	Township of Mulmur	N	N/A	N	N	N
T-11	Tandem Axle	Township of Mulmur	Y	2021-Nov-29	N	N	N
T-12	Tandem Axle	Township of Mulmur	Y	2021-Nov-29	N	N	N
T-8	Tandem Axle	Township of Mulmur	Y	2021-Nov-29	N	N	N
T-9	Tandem Axle	Township of Mulmur	Y	2021-Nov-29	N	N	N

Equipment	Pre-Wet Capability	Anti-Icing Capacity	Other Features	Comments
Alex Kozak - snow blower	N	N		
B-3	N	N		2017 Cat Back Hoe - Backup loader for winter sand and used for snow removal and emergency repairs to the road network
G-7	N	N		2024 – 150- Cat Grader
G-4	N	N		2010 John Deere Grader
G-6	N	N		2015 John Deere Grader
J-1	N	N		Make - John Deere Module - 6140 R year - 2015
L-3	N	N		2018 John Deere Loader Used for loading sand
P-6	N	N		2018 G.M.C. pickup truck
P-7	N	N		2018 Ford F150
T-10	N	N		1 Ton G.M.C. used for maintenance of the road network.
T-11	N	N	- Has a spreader	2019 Western Star
T-12	N	N	- Has a spreader	2025 Western Star
T-8	N	N	- Has a spreader	2013 Freightliner
T-9	N	N	- Has a spreader	2016 Western Star

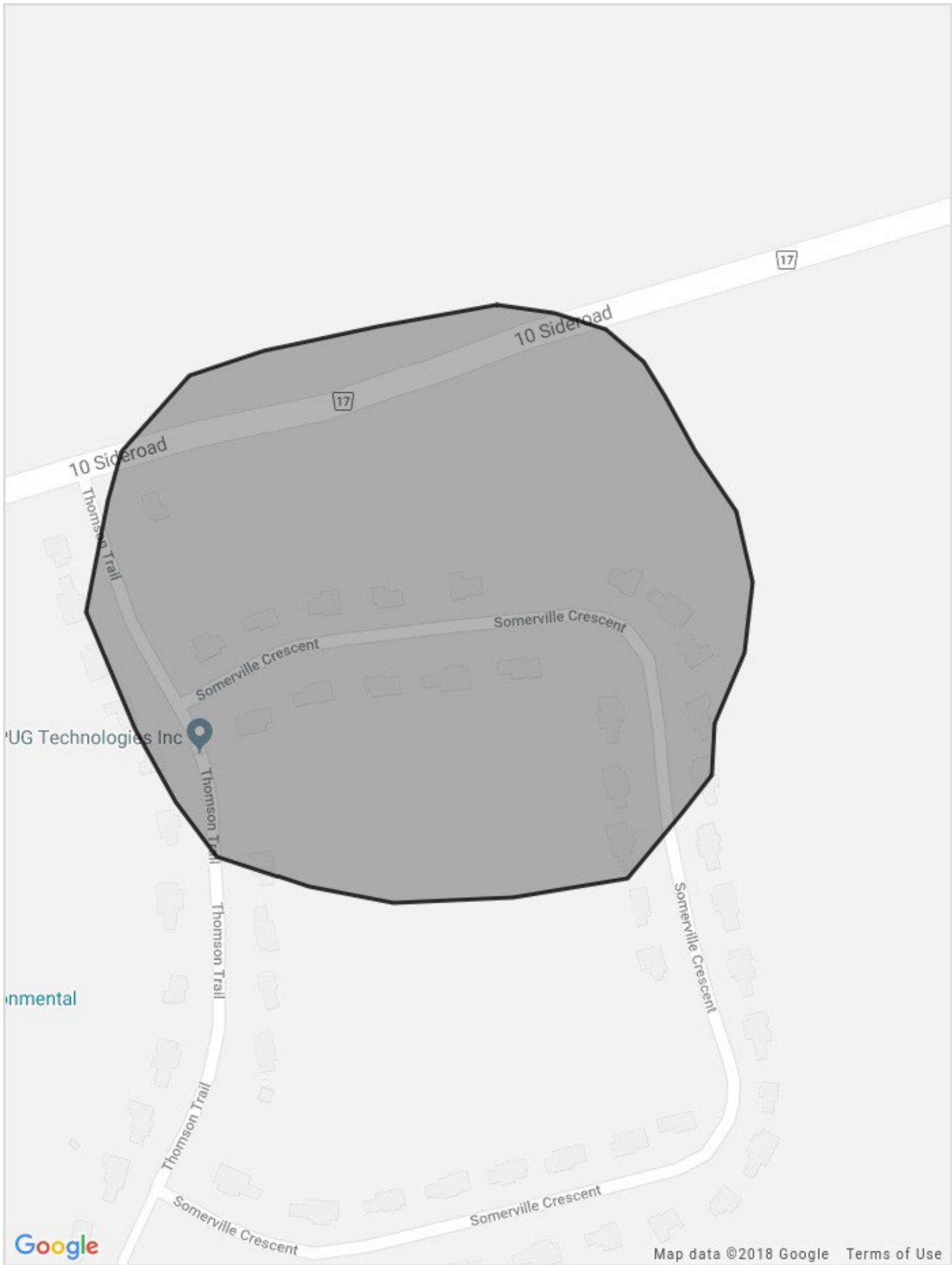
Legend Y = Yes N = N

APPENDIX 4-1

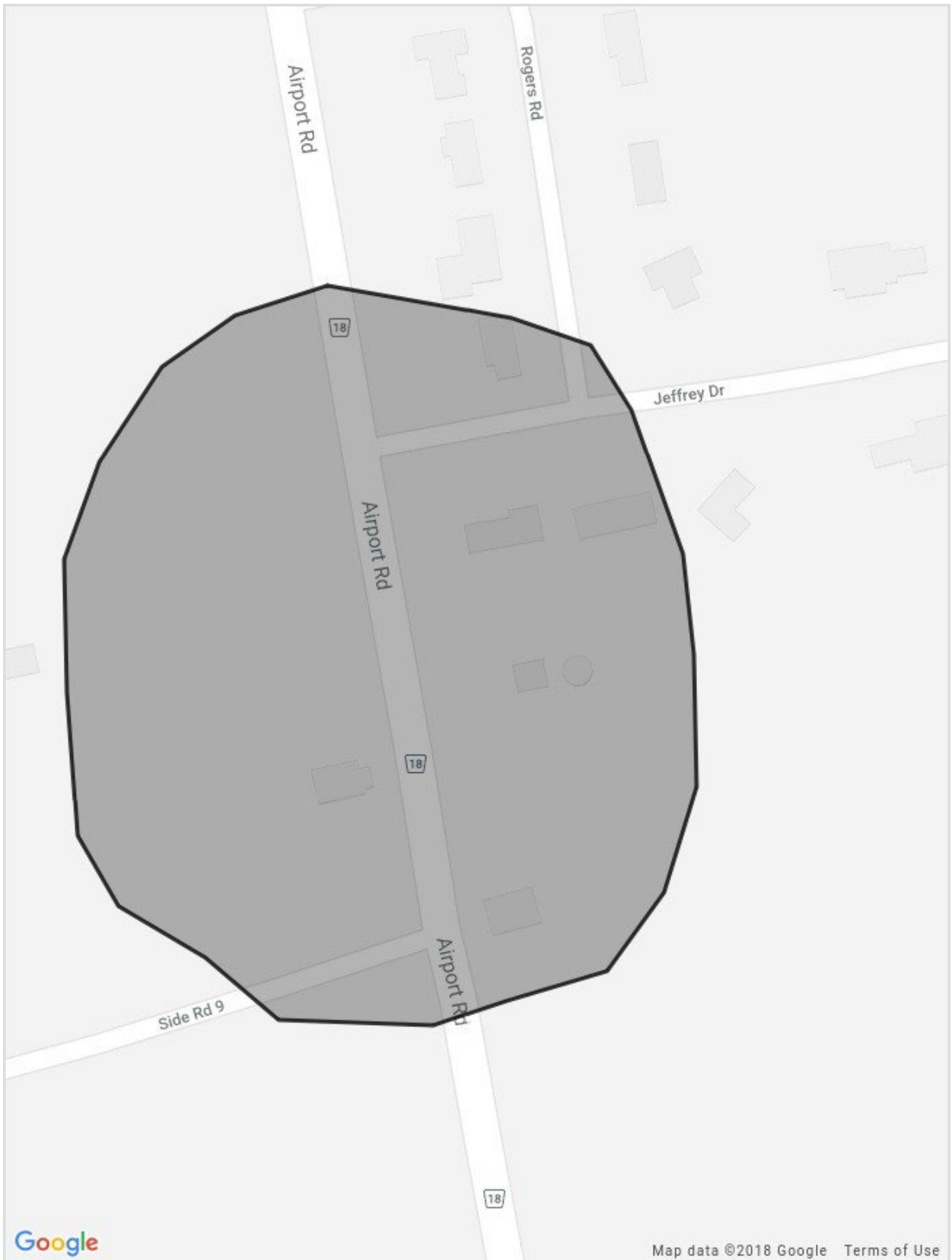
Vulnerable area
Well 1



APPENDIX 4-2
Vulnerable Area
(Mansfield Water System Well # 3)



APPENDIX 4-3
Vulnerable Area
(Mansfield Water System Well # 2)



APPENDIX 5-1

Media Release Road Closed

The Township of Mulmur

Date _____

Time _____

Media Release

Due to a severe winter storm *O.P.P.* advise that the following roads in the Township of Mulmur are impassable due to (reason, e.g. “drifting and blowing snow”) and have been closed to traffic.

Street Name	From	To

O.P.P. advise that these roads will remain closed until the storm subsides and driving conditions improve.

APPENDIX 5-2

Media Release Severe Weather



The Township of Mulmur

Date _____

Time _____

Media Release

Due to a severe winter storm *O.P.P.* advise that many roads in the Township of Mulmur are impassable due to drifting and blowing snow. *O.P.P.* advise that you do not drive until the storm subsides and driving conditions improve.

(Sometimes it is physically impossible to place signs and barricades to close a road, in this instance use this release when the roads have NOT been physically been closed by the placement of signs and barricades or an officer is present to redirect traffic)

APPENDIX 6

Operating Instructions and Safety Rules

The Township of Mulmur
OPERATING INSTRUCTIONS AND SAFETY RULES

1. WORK HOURS

For major storm overtime will be scheduled as needed at the discretion of the (Public Works Foreperson).

2. SAFETY PROCEDURES

Safety is paramount during any snow storm. The following safety rules will be observed by all equipment operators.

A. Check your snow removal equipment prior to leaving the yard and also the following:

- 1)** All work lights and emergency lights
- 2)** Two-way radio
- 3)** Snow plow and frame for damage
- 4)** Sander
- 5)** Rear view mirrors
- 6)** Flags and reflectors
- 7)** Windshield wipers
- 8)** Heater and defroster
- 9)** All necessary mapping for snow and ice removal
- 10)** Vehicle Inspection Items

B. Report any non-working equipment to a Supervisor immediately.

C. Use reasonable caution in operation of snow removal equipment.

D. Drive cautiously.

E. Utilize caution when operating in cramped quarters with parked cars on a street.

F. Know your route and any fixed objects covered by snow.

G. Obey all traffic laws.

H. Do not follow traffic too closely.

- I. Slow down prior to turning—your plow will tend to push you where it wants to go.

- J. Equipment involved in snow and ice control operations is emergency equipment, but you as the operator, must obey all traffic laws and provide right-of-way to other vehicles.

- K. Do not attempt to tow private automobiles—offer assistance by way of radio contact to Dispatch or Supervisor.

- L. Utilize caution when operating deicing equipment. Watch for overhead obstructions.

Lower box when necessary.

3. ACCIDENTS

Report all moving vehicle accidents immediately to your Supervisor. Depending on the severity of the accident and availability due to storm related issues, the (Police Department) will typically be called to evaluate the accident. Prior to leaving duty on the shift, a Motor Vehicle Accident Report & Review form and the internal Vehicle Damage Claim Report should be filled out. Your Supervisor will attempt to interview the driver at the end of the shift or within 24 hours after return to normal duties.

Accident forms should be available from the on-duty Supervisor.

4. CARE AND USE OF EQUIPMENT

The snow plow operator is responsible for routine maintenance of the vehicle. Report any maintenance needed to the Supervisor or mechanic on duty. Check vehicle before and after use for any maintenance needed or damage to equipment. Fill out Operations Daily Inspection Check Sheet. The vehicle should be refuelled at the end of each operator's shift.

5. RADIO COMMUNICATIONS

Operators are to take duty instructions from the Supervisor on duty. The Police may report road conditions or other issues to the Supervisor or Office. It will be the role of the Public Works Foreperson to direct all winter maintenance related operations.

6. DAILY REPORTS

Upon completion of the shift, operators will be required to fill out a Daily time sheet. Report any damage to the equipment of public property that occurred during the shift to their supervisor. Routes and distance traveled are kept electronically.

APPENDIX 7-1

Record of Training



Record of Training

This statement certifies that the below named individual has successfully completed the in-house Winter Operations Training program as required by The Township of Mulmur Winter Operations Plan.

The Winter Operations Training program is comprised of the following modules:

- Equipment Circle Check Equipment Calibration Record Keeping
- Health and Safety
- Level of Service – policies, practices and procedures
- Identification of Plow Routes – including variations for year to year and issues identified along the route
- De-icing chemicals – application rates, storage and handling
- Identification of road salt vulnerable areas and the procedures to follow in those areas
- Yard and Equipment maintenance

Employee Name _____ (Please print name)

Employee Signature _____ Date _____

Trainer Signature _____ Date _____

Supervisor Signature _____ Date _____

APPENDIX 7-2

Record of Training – Night Patroller



Record of Patroller Training

This certifies that _____ (employee name) has successfully completed the in-house Winter Operations –Patroller Training as required by the Township of Mulmur Winter Operations Plan.

The Winter Operations –Patroller Training workshop includes the following modules:

- Weather monitoring and forecasting results including: Road Weather Information System, Value Added Meteorological Service, eutectic temperature, pavement temperature, dew point
- Winter Shift Schedules Record Keeping Health and Safety
- Level of Service – policies, practices and procedures
- Identification of Plow Routes – including variations for year to year and issues identified along the route
- De-icing chemicals – usage, application rates, storage and handling Identification of road salt vulnerable and/or susceptible areas and the procedures
- to follow in those areas Call-out procedures Emergency contacts
- Yard and Equipment maintenance

Employee Name _____ (Please print name)

Employee Signature _____ Date _____

Trainer Signature _____ Date _____

Supervisor Signature _____ Date _____

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